

In the Claims

1. (Previously amended) A multicomponent vaccine for ruminants comprising an immunogenically effective combination of a protective antigen component from at least six clostridial organisms, a protective antigen component from at least one non-clostridial organism and an adjuvant, wherein the vaccine is in a low dose volume of about 3 ml or less.
2. (Currently amended) A The multicomponent vaccine of claim 1 comprising ~~an immunogenically effective combination of protective antigen components~~ from at least seven clostridial organisms, a protective antigen component from at least one non-clostridial organism and an adjuvant, wherein the vaccine is in a low dose volume of about 3 ml or less.
3. (Previously amended) The vaccine according to Claim 1, wherein the clostridial organism is selected from the group consisting of *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. sordellii*, *Cl. haemolyticum* and *Cl. tetani*.

-2-

Attorney Docket: I-95.184 US D1
USSN: 10/748,524

4. (Previously amended) The vaccine according to Claim 1, wherein said non-clostridial organism is selected from the group consisting of a Gram negative bacterium, a Gram positive bacterium, a virus, a parasite and a rickettsia.
5. (Previously amended) The vaccine according to Claim 4, wherein the non-clostridial organism is at least one Gram negative bacterium selected from the group consisting of *H. somnus*, *M. bovis*, *P. haemolytica*, *P. multocida*, *E. coli*, *S. typhimurium*, *Leptospira spp.* and *C. foetus*.
6. (Previously amended) The vaccine according to Claim 5, wherein the Gram negative bacterium is *H. somnus*.
7. (Previously amended) The vaccine according to Claim 5, wherein the Gram negative bacterium is *M. bovis*.
8. (Previously amended) The vaccine according to Claim 4, wherein the non-clostridial organism is at least one virus selected from the group consisting of infectious bovine rhinotracheitis virus, bovine viral diarrhea virus, parainfluenza type 3 virus, bovine respiratory syncytial virus and a combination of at least two thereof.
9. (Previously amended) The vaccine according to Claim 4, wherein the non-clostridial organism is at least one

-3-

Attorney Docket: I-95.184 US D1
USSN: 10/748,524

parasite selected from the group consisting of *Neospora* spp., *Tritrichomonas foetus* and *Cryptosporidium bovis*.

10. (Canceled)

11. (Previously amended) The vaccine according to Claim 1, wherein the adjuvant is selected from the group consisting of a polymer, a block co-polymer, an oil-in-water emulsion, a water-in-oil emulsion, $Al(OH)_3$, $AlPO_4$, an extract of a bacterial cell wall, an extract of a plant, a liposome, a saponin and a combination of at least two thereof.

Claims 12-14 Cancelled

15. (Previously amended) The vaccine according to Claim 3, wherein the 6 clostridial organisms are selected from the group consisting of *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. haemolyticum* and *Cl. sordellii*.

16. (Cancelled)

17. (Previously amended) The vaccine according to Claim 2, wherein the 7 clostridial organisms are selected from the group consisting of *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. sordellii*, *Cl. haemolyticum*, and *Cl. tetani*.

-4-

Attorney Docket: I-95.184 US D1
USSN: 10/748,524

18. (Previously amended) The vaccine according to Claim 1, wherein the protective antigen component from 6 clostridial organisms are from *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens*, type D, and *Cl. sordellii* and the protective antigen component from a non-clostridial organism is from *H. somnus*.
19. (Previously amended) The vaccine according to claim 2, wherein the protective antigen component from 7 clostridial organisms is from *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens*, type D, *Cl. haemolyticum* and *Cl. sordellii* and the protective antigen component from a non-clostridial organism is from *H. somnus*.
20. (Canceled)
21. (Canceled)
22. (Previously amended) The multicomponent vaccine for ruminants according to Claim 4, wherein at least one protective antigen component is from a virus.
23. (Presently amended) A The multicomponent vaccine for ruminants according to Claim 22, wherein the protective antigen component comprises a plurality of viruses.
24. (Previously amended) The vaccine according to Claim 23,

-5-

Attorney Docket: I-95.184 US D1
USSN: 10/748,524

wherein the clostridial organisms are selected from the group consisting of *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens*, type D, *Cl. sordellii*, *Cl. haemolyticum* and *Cl. tetani*.

25. (Previously amended) The vaccine according to Claim 23, wherein the viruses are selected from the group consisting of infectious bovine rhinotracheitis, parainfluenza type 3 virus, bovine viral diarrhea virus and bovine respiratory syncytial virus.

26. (Previously amended) The vaccine according to Claim 23, wherein the adjuvant is selected from the group consisting of a polymer, a block co-polymer, an oil-in-water emulsion, a water-in-oil emulsion, an extract of a plant and a combination of at least two thereof.

27. (Cancelled)

28. (Previously amended) The vaccine according to Claim 2, wherein the non-clostridial organism is selected from the group consisting of a Gram negative bacterium, a Gram positive bacterium, a virus, a parasite and a rickettsia.

29. (Previously amended) The vaccine according to Claim 28, wherein the non-clostridial organism is a Gram negative bacterium and said Gram negative bacterium is selected from

-6-

Attorney Docket: I-95.184 US D1
 USSN: 10/748,524

the group consisting of *H. somnus*, *M. bovis*, *P. haemolytica*, *P. multocida*, *E. coli*, *S. typhimurium*, *Leptospira* spp. and *C. foetus*.

30. (Previously amended) The vaccine according to Claim 28, wherein the non-clostridial organism is a virus and the virus is selected from the group consisting of infectious bovine rhinotracheitis, parainfluenza type 3 virus, bovine viral diarrhea virus and bovine respiratory syncytial virus.

31. (Previously amended) The vaccine according to Claim 28, wherein the non-clostridial organism is a parasite and the parasite is selected from the group consisting of *Neospora* spp., *Tritrichomonas foetus* and *Cryptosporidia* spp..

32. (Cancelled)

33. (Previously amended) The vaccine according to Claim 28, wherein the adjuvant is selected from the group consisting of a polymer, a block polymer, an oil-in-water emulsion, a water-in-oil emulsion, an extract of a plant, a liposome and a combination of at least two thereof.

Claims 34 - 39 (Cancelled)

40. (Previously amended) The vaccine according to claim 2, wherein the 7 clostridial organisms are *Cl. chauvoci*, *Cl.*

-7-

Attorney Docket: I-95.184 US D1
USSN: 10/748,524

septicum, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. sordellii* and *Cl. haemolyticum* and the protective antigen component from at least one non-clostridial organism is *H. somnus* or *M. bovis*.

41. (Previously amended) A multicomponent vaccine comprising a safe and immunogenically effective combination of a protective antigen component from 2 clostridial organisms which are selected from the group consisting of *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. sordellii*, *Cl. haemolyticum* and *Cl. tetani*; a protective antigen component from viruses selected from the group consisting of infectious bovine rhinotracheitis virus, parainfluenza type 3 virus, bovine viral diarrhea virus and bovine respiratory syncytial virus and an adjuvant, wherein the vaccine is in a dose size of 3.0 mL or less.

42. (Previously amended) A multicomponent vaccine comprising a safe and immunogenically effective combination of a protective antigen component from 6 clostridial organisms, which are *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D and *Cl. sordellii*; a protective antigen component from 4 viruses, which are infectious bovine rhinotracheitis virus, parainfluenza type 3 virus, bovine viral diarrhea virus and

-8-

Attorney Docket: I-95.184 US D1
 USSN: 10/748,524

bovine respiratory syncytial virus and an adjuvant, wherein the vaccine is in a dose size of 3.0 mL or less.

Claims 43-45 (Cancelled)

46. (Previously added) A method of immunizing an animal comprising administering an effective amount of the vaccine of Claim 1.

47. (Previously added) A method of immunizing an animal comprising administering an effective amount of the vaccine of Claim 2.

-9-

Attorney Docket: I-95.184 US D1
USSN: 10/748,524